

We claim:

1. A method of transmitting a plurality of sub-streams in a multi-stream digital audio
5 broadcasting system, said method comprising the steps of:

allocating a unique frequency partition to each of said sub-streams for a plurality
of consecutive time slots;

allocating a unique time slot to each of said plurality of sub-streams; and

transmitting said sub-streams to a receiver.

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2. The method of claim 1, wherein said sub-streams include at least two core streams
and at least two enhancement streams.

3. The method of claim 2, wherein said core sub-streams have a maximum
15 separation in the time domain.

4. The method of claim 2, wherein said multi-stream digital audio broadcasting
system is an all-digital IBOC system and said core sub-streams have a maximum separation in
the frequency domain.

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5. The method of claim 2, wherein said multi-stream digital audio broadcasting
system is a hybrid IBOC system and said core sub-streams are transmitted in the frequency
domain in the innermost side bands.

25 6. The method of claim 2, wherein said multi-stream digital audio broadcasting
system is an all-digital IBOC system and each of said core sub-streams has a maximum
separation from one of said enhancement sub-streams in the frequency domain and a maximum
separation from the other enhancement sub-stream in the time domain.

7. The method of claim 2, wherein said multi-stream digital audio broadcasting system is an all-digital IBOC system and said core sub-streams are separated by a data stream.

8. The method of claim 1, wherein no two sub-streams associated with the same audio segment are transmitted in the same time slot.

9. The method of claim 1, wherein a unique time slot is allocated to each of said sub-streams by introducing a delay between each of said sub-streams.

10. A transmitter in a multi-stream digital audio broadcasting system, comprising:
a modulator for allocating a unique frequency partition to each of two or more sub-streams for a plurality of consecutive time slots;
a delay circuit for allocating a unique time slot to each of said two or more sub-streams; and
a transmitter for transmitting said two or more sub-streams to a receiver.

11. The transmitter of claim 10, wherein said two or more sub-streams include at least two core streams and at least two enhancement streams.

12. The transmitter of claim 11, wherein said core sub-streams have a maximum separation in the time domain.

13. The transmitter of claim 11, wherein said multi-stream digital audio broadcasting system is an all-digital IBOC system and said modulator provides a maximum separation of said core sub-streams in the frequency domain.

14. The transmitter of claim 11, wherein said multi-stream digital audio broadcasting system is a hybrid IBOC system and said modulator allocates said core sub-streams in the frequency domain to the innermost side bands.

15. The transmitter of claim 11, wherein said multi-stream digital audio broadcasting system is an all-digital IBOC system and each of said core sub-streams has a maximum separation from one of said enhancement sub-streams in the frequency domain and a maximum separation from the other enhancement sub-stream in the time domain.

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16. The transmitter of claim 11, wherein said multi-stream digital audio broadcasting system is an all-digital IBOC system and said core sub-streams are separated by a data stream.

17. The transmitter of claim 10, wherein no two sub-streams associated with the same
10 audio segment are transmitted in the same time slot.

18. The transmitter of claim 10, wherein a unique time slot is allocated to each of said two or more sub-streams by introducing a delay between each of said two or more sub-streams.